User engagement with digital service innovation

Valorization Addendum

This dissertation examines how users engage with digital service innovation in terms of how they feel about the innovation, what they think about the innovation and how they actually use the innovation. In three empirical chapters, I examine these different, yet complementary facets of engagement while focusing on a different type of digital service innovation. The innovations I examine differ in terms of the degree of change they can bring to the user experience: a new-to-the-market service in Chapter 2, a new version of a service in Chapter 3 and introducing new features in an existing service in Chapter 4. The context of Chapter 2 is contactless mobile payment (i.e., a primarily functional service), the context of Chapter 3 is multiplayer video gaming (i.e., a primarily hedonic service), while the context of Chapter 4 is online socialization (i.e., a service both functional and hedonic). Therefore, the findings of these chapters have important implications for service providers introducing digital service innovations of different types and magnitude. This section expands on the relevance of the results for a managerial audience, while clarifying potential target groups and applications.

Chapter 2: Engagement with a New-to-the-Market Digital Service Innovation

While many managers praise innovation as a key strategic priority that allows companies to stay competitive and that can also impact the bottom line, the harsh reality of the market is that most newly introduced innovations fail. More often than not users are the ones deciding the market success of innovations. Hence, for companies introducing new-to-the-market services it is of paramount importance to understand why and how potential users interact with digital service innovation and what elements of the service experience affect their engagement with the innovation. This chapter focuses on contactless mobile payment (CMP) and shows that users interact with this service to satisfy their psychological needs for autonomy (e.g., are there enough stores supporting CMP?), competence (e.g., do users possess the skills to use CMP?) and relatedness (e.g., would users' friends and family want them to use CMP?). If these psychological needs are satisfied, then users can develop habitual behaviors. Such behaviors can vary in terms of time (e.g., do users spend more or less via CMP from one week to the next), in terms of location (e.g., do users pay with their mobile only in one specific store or across multiple stores?) and in terms of merchant category (e.g., do users pay with their mobile only in

supermarkets, or also in restaurants and bars?). The results in this chapter show that when users develop stable habitual behaviors in terms of location (i.e., they use CMP more across all the supporting stores) they also tend to say more positive things about CMP, they evaluate their whole experience as more positive and they ultimately spend more via CMP. Managers and policy makers can apply these results in multiple ways.

First of all, CMP is provided through a service ecosystem comprising of multiple actors: users (i.e., consumers with smartphones equipped for CMP), supporters (i.e., stores in brick-and-mortar locations with payment terminals accepting CMP) and enablers (i.e., companies offering CMP terminals, smartphones or payment applications). The different actors might have different objectives for being part of the ecosystem. For example, a bank or a mobile services operator offering a payment application would like that consumers use CMP in as many retail locations as possible, while a supermarket supporting that payment application would like that consumers use CMP in its own, and not the competitors', retail locations. My results suggest that the ecosystem thrives (i.e., users feel more positively about CMP, think more positively about CMP and spend more via CMP) when consumers' usage of CMP is more dispersed across locations. Hence, it becomes extremely important for the companies in the ecosystem to achieve a common understanding that usage could be encouraged across all the supporting locations. This could be achieved by inviting not only competing, but also complementary supporters in the ecosystem (e.g., an airline, a hotel and a car rental service provider) or by coupling usage with a loyalty program (e.g., the more the consumer uses the innovation across locations, the more benefits are unlocked).

Second of all, irrespective of their motives for joining the ecosystem, enabling and supporting actors need to make sure the users' psychological needs are satisfied as that would lead to the formation of habitual behaviors fostering user engagement. CMP supporters might focus on satisfying users' needs for competence by e.g., in-store advertising explaining how CMP works or by encouraging in-store trials through CMP-only terminals. CMP enablers might focus on satisfying users' needs for autonomy by clearly communicating and encouraging usage at a multitude of locations supporting CMP. That could be implemented by integrating geolocation with the CMP application and informing users of CMP opportunities in the vicinity could they allow push notifications.

Third and last, this chapter provides some important insights for companies contemplating joining an existing, or even setting up their own payment ecosystem. Given that the digital service innovation is new-to-the-market, my recommendation for a potential new entrant would be to join an existing, thriving ecosystem (e.g., Apple Pay). Such a company would benefit from the already established habitual behaviors in terms of location, while only having to invest in the CMP supporting terminals. As appealing as setting up an own ecosystem might be to some managers, the investment (e.g., developing the payment application) would have to take into account the subsequent challenges of developing beneficial habitual behaviors (e.g., satisfying users' psychological needs and encouraging dispersed usage across locations).

Chapter 3: Engagement with a Sequential Digital Service Innovation

Especially when it comes to hedonic services such as those offered by the entertainment industry (e.g., e-books, movies, video games) developing and nurturing successful franchises (e.g., each new Harry Potter book, each new James Bond movie or each new Call of Duty video game) is a key managerial priority. With development costs increasing and consumer attention spans decreasing, keeping users engaged with new versions of a service has become a key managerial concern. Consequently, this chapter focuses on a new title in a successful multiplayer video game franchise and shows that while individual users can have very different behavioral engagement trajectories (i.e., some users will play a lot, whereas others will play very little), a common engagement trajectory can be determined across all users within one month after the game's introduction. This common engagement trajectory implies that across all users, the level of behavioral engagement is highest during the first week after the introduction, but then decreases from the first until the fourth week. The findings in this chapter have important implications for service providers introducing new versions of digital services.

First of all, managers need to acknowledge the importance of the time period immediately following the introduction of a new version on how engaged users stay with the service. While it is natural to expect that engagement levels will decrease, it is important for managers to be aware that nurturing a high level of engagement across all users during the first week after introduction can be beneficial for keeping (at least some of) the users engaged even one year later. That would be beneficial as it will keep users interested in the service close to

the introduction of the next version. There are multiple applications that could be considered to foster initial engagement such as encouraging pre-orders by providing unique content (e.g., limited edition items) or offering incentives to stimulate usage (e.g., additional experience points if users play on specific days).

Second of all, even if the rate of change in engagement is negative, a less steep decrease in engagement during the first month can still ensure greater engagement later on. Therefore, after having introduced a new version, service providers can monitor the rate of change during the first weeks after launch and assess its potential success. Could the negative rate of change be too steep, managers can introduce engagement boosters (e.g., new maps, items, or gameplay modes for video games; additional footage for movies and additional content for e-books).

Third and last, the findings of this chapter also indicate that the behavioral user engagement trajectory developed during the introduction period can lead to a fulfilling user experience one year later. Managers could invest in satisfying functional, hedonic and social user needs during the first week after the introduction, thus boosting the initial engagement level. For video games, that could be achieved through publishing user and team achievements either statically (e.g., allowing users to publish their in-game rankings on social media) or dynamically (e.g., allowing users to live-broadcast their in-game or spectator experience). For movies, that could be achieved by encouraging viewers to share their cinema attendance on social media (e.g., through custom Snapchat filters).

Chapter 4: Engagement with a Gradual Digital Service Innovation

Many digital services nowadays, be they predominantly functional (e.g., Office 360), predominantly hedonic (e.g., Pokemon Go) or both functional and hedonic (e.g., Skype) offer a ceaseless version to which new features are added (and from which sometimes old features are removed) over time. Service providers hope that new features can refuel users' engagement with the service and even attract new users (e.g., Facebook introduction of a live broadcast feature directly competing with YouTube). Nevertheless, new features partly change how the service looks and what the service does, thus changing the user experience (i.e., how users interact with the service). This chapter focuses on an existing online socialization service and shows that users do not always see

new features as something positive (i.e. a challenge that can improve their experience), but can also see it as something negative (i.e., a threat that can deteriorate their experience). Users manage the perceived change in their experience by employing coping strategies (e.g., trying to directly address the change by trying the new features out, expressing their emotions about the change by venting on social media or asking friends for help with the change). Users' belief that they have the ability to deal with the change affects how they cope the more complex the innovation (i.e., the more features are added at the same time). The findings in this chapter have important implications for service providers introducing new features in existing digital services.

First of all, service providers could aim to convince their users to evaluate new features as something positive, meant to improve their experience (i.e., frame the change as a challenge and make users eager to pursue it). For instance, with the introduction of each new feature interactive tutorials could be offered to highlight what is new, explain what changes for the user in an easy-to-understand manner and why those changes are supposed to be beneficial for the user experience. Many service providers provide detailed descriptions of what the new features comprise (e.g., via the license agreements users have to accept with each new update), but very few (e.g., Facebook, Google) make the additional step of simply and clearly explaining what has changed and what that means for the user.

Second of all, even if users see the new features as a threat (i.e., a change to be avoided), service providers can still help users employ coping strategies to manage the perceived change. The findings in this chapter suggest that when users actively try-out the new features they can feel more positively about the innovation (i.e., they become more passionate about it) as well as think more positive about the innovation (i.e., they find the innovation more useful). Hence, after communicating what has changed, service providers could encourage their users to actively try-out the new features. Gamification elements could be employed for that purpose: encouraging users to use the new feature by providing simple tasks they can complete and incentivizing participation (e.g., the ability to compare with friends, additional content etc.).

Third and last, managers could be aware that when introducing more complex innovations in an existing service (i.e., multiple new features) users' perception of their ability to deal with the change becomes salient and can reduce their

employment of coping strategies. While actively trying out the new features is still beneficial for driving engagement irrespective of the innovation complexity, service providers could encourage the employment of other coping strategies depending on the type of engagement they would like to drive. For instance, if a more complex innovation is introduced, allowing users to vent their emotions via social media will lead to them seeing the innovation as more useful. Companies can encourage that by providing users with the possibility to provide feedback and share it on their social networks.

In conclusion, this dissertation shows that service providers who want to foster their users' engagement with digital service innovation need to understand that the changes brought forth by innovation can alter the users' experiences in both positive, as well as negative ways.